

Poster presentation

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Title : Vaccine-induced immune cell interaction with different version of the *Cooperia oncophora* ASP

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Abstract :

Cooperia oncophora is among the most prevalent intestinal nematodes in cattle. Our group has already shown the protective potential of a vaccine based on the native double domain activation-associated secreted protein (nDD-ASP) found in the excretory-secretory material of the adult stages of the parasite. However, a recombinant version expressed in *Pichia pastoris* (pDD-ASP) previously did not confer protection in calves. These differences could be explained by distinct cellular and humoral vaccine-induced immune responses induced by the antigens. The aim of the current study was to identify how vaccine-induced immune cells were interacting with different versions of ASP antigens. Using a mouse model, we have shown that antigen-specific immune cells were more prone to proliferate and secrete highly specific antibodies towards nDD-ASP when native antigen was included in the vaccine administered. Both native, recombinant and deglycosylated antigens interacted with vaccine induced specific B, NK and non-B/T/NK cells. However, competition between both antigens has shown that pDD-ASP vaccine-induced cells recognised preferentially pDD-ASP over nDD-ASP. On the contrary when vaccinated with nDD-ASP, immune cells interacted preferentially with the nDD-ASP over its deglycosylated version. These results tend to explain in part why pDD-ASP failed to be protective